

Title (en)
DEVICE COMPRISING AN INJECTOR AND A SENSOR

Title (de)
VORRICHTUNG UMFASSEND EINEN INJEKTOR UND EINEN SENSOR

Title (fr)
DISPOSITIF COMPRENANT UN INJECTEUR ET UN CAPTEUR

Publication
EP 3234539 A1 20171025 (DE)

Application
EP 15801430 A 20151127

Priority
• DE 102014226440 A 20141218
• EP 2015077915 W 20151127

Abstract (en)
[origin: WO2016096375A1] The invention relates to a device (10) comprising an injector (13), which has a valve needle (15) that extends through a pressure chamber (17), and an optical sensor, which has an optical fiber (11) having a fiber Bragg grating (12), wherein the optical fiber (11) is arranged anchored in the injector (13) in order to form a first optical signal when light from a light source is fed into the optical fiber (11), which first optical signal, as a wavelength change of light reflected at the fiber Bragg grating (12) with respect to the fed-in light, is a measure of a force from the pressure chamber (17) acting on the optical fiber (11), wherein an action surface (22') that can be deformed in accordance with pressure is formed in the injector (13) in order to couple light from the optical fiber (11) back into the optical fiber (11) in accordance with the degree of deformation of the action surface (22'), wherein the intensity of the light coupled back, as a second signal, is a measure of a pressure from the pressure chamber (17) that deforms the action surface (22'), wherein the opening and closing behavior of the valve needle (15) can be determined from the correlation of the two optical signals.

IPC 8 full level
G01L 3/16 (2006.01); **G01M 11/08** (2006.01)

CPC (source: CN EP)
G01L 3/16 (2013.01 - CN EP); **G01M 11/085** (2013.01 - CN EP)

Citation (search report)
See references of WO 2016096375A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
DE 102014226440 A1 20160623; CN 107110741 A 20170829; CN 107110741 B 20200526; EP 3234539 A1 20171025;
EP 3234539 B1 20230628; WO 2016096375 A1 20160623

DOCDB simple family (application)
DE 102014226440 A 20141218; CN 201580069440 A 20151127; EP 15801430 A 20151127; EP 2015077915 W 20151127